Proposed ANSI/ANS 41.5
For Radioanalytical Data Validation

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The American National Standards Institute/American Nuclear Society (ANSI/ANS) Radioactive Waste Management Committee is responsible for the development of radioactive waste management and environmental remediation standards that address the generation, monitoring, characterization, treatment, storage, and ultimate disposal of all categories of radioactive waste, including mixed waste, and criteria and operations required for the environmental remediation of nuclear facility sites that have become contaminated. The Subcommittee on Environmental Remediation of Radiation Contaminated Sites manages the development and maintenance of standards that address the cleanup of radioactive materials and radioactivity mixed with hazardous substances. This subcommittee has authorized a writing group to develop a new ANSI/ANS Standard, 41.5, for validation of data from radiological analysis supportive of environmental remediation. A writing group representing organization with interest in the subject matter of the standard was formed.

This standard is being developed from the assumption that a proper data quality objective (DQO) process has been used to define the quality of data needed for the decision process. Therefore, set limits for the quality control parameters are not being recommended in the standard, but rather qualification of data is to be tied to the DQOs. This allows the qualification to be based on how much error, bias, lack of precision, lack of sensitivity, or lack of selectivity affects the decision that is being made from the data. Furthermore, the standard will provide general guidance for when and how much of the data should be validated.

This standard sets forth criteria and processes for demonstrating the validity of radioanalytical results. It addresses the specific measurements and data required to permit the use of the results for environmental remediation activities. This standard will be a consensus standard specifying the essential requirements for accepting radioanalytical data as input to process control site characterization, waste acceptance criteria, waste certification, litigation, and other applications as deemed necessary. This standard will provide a minimum set of checks and tests that will ensure a consistent approach for validation of data produced by any radioanalytical laboratory for waste management, environmental remediation and process control.

This standard addresses many of the inconsistencies in the approaches, evaluation algorithms, parameters evaluated and qualifiers used in the existing site specific data verification and validation programs. This standard incorporates the data quality objectives, data use and action level concepts throughout the decision making process within the specifications needed for the data verification, validation and usability evaluations. It is anticipated that this newer approach shall greatly reduce the unnecessary rejection of a large percentage of data for minor QC problems.

The standard writing group has finalized the outline and currently has a working draft of the Standard. The outline of the Standard is as follows:

1. Introduction
2. Scope
3. Definitions